



DEPARTMENT OF TRANSPORTATION

[4910-EX-P]

Federal Motor Carrier Safety Administration

[Docket No. FMCSA-2011-0022]

Parts and Accessories Necessary for Safe Operation; Grant of Temporary Exemption for Innovative Electronics

AGENCY: Federal Motor Carrier Safety Administration (FMCSA), DOT.

ACTION: Notice of final disposition.

SUMMARY: The Federal Motor Carrier Safety Administration (FMCSA) announces its decision to grant an exemption to allow commercial motor vehicle operators to use trailer-mounted electric brake controllers which monitor and actuate electric trailer brakes based on inertial forces developed in response to the braking action of the towing vehicle. FMCSA believes that the use of trailer-mounted electric brake controllers will maintain a level of safety that is equivalent to, or greater than, the level of safety achieved without the exemption.

DATES: This exemption is effective from [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] through [INSERT DATE TWO YEARS FROM THE DATE OF PUBLICATION IN THE FEDERAL REGISTER].

FOR FURTHER INFORMATION CONTACT: Mr. Luke W. Loy, Vehicle and Roadside Operations Division, Office of Bus and Truck Standards and Operations, MC-PSV, (202) 366- 0676, Federal Motor Carrier Safety Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590-0001.

SUPPLEMENTARY INFORMATION:

Background

Under 49 U.S.C. 31315 and 31136(e), FMCSA may grant an exemption from the

brake requirements of 49 CFR 393.48(d) and 49 CFR 393.49(c) for a 2-year period if it finds “such exemption would likely achieve a level of safety that is equivalent to, or greater than, the level of safety that would be achieved absent such exemption” (49 CFR 381.305(a)).

Innovative Electronics’ Request for Exemption

Innovative Electronics, Inc., applied for an exemption from 49 CFR 393.48(d) and 49 CFR 393.49(c) to allow commercial motor vehicle operators to tow trailers equipped with trailer-mounted electric brake controllers.

In its application, Innovative Electronics stated:

Electric brakes have been used on commercial trailers for a long period of time; however each tow vehicle must currently be equipped with a brake controller in the towing vehicle which applies the trailer brakes when the driver applies the towing vehicle’s brakes. Tow vehicle brake controllers are usually aftermarket devices which are manually adjustable to increase or decrease the amount of electric brake force applied to the trailer wheels to adjust for wet or dry road conditions and loaded or unloaded trailer condition. Electric brakes on commercial trailers will not operate unless the tow vehicle has a brake controller.

Technology developments in electronics have allowed the development of a self-contained electric brake control device that is mounted directly to the trailer enabling it to monitor and actuate the brakes based on inertial forces developed in response to the braking action of the towing vehicle. The device is essentially an electric surge brake controller, with the electric power for the brakes provided by the tow vehicle, but the braking action of the trailer is controlled by the electric controller mounted on the trailer. A trailer using this trailer-mounted electric brake controller does not meet the “operative at all times” requirement of 49 CFR 393.48 and the brakes do not meet the “apply by a single application valve” requirement of 49 CFR 393.49.

Innovative Electronics requested that the hydraulic surge brake requirements of §§ 393.48(d) and 393.49(c) be applied to the temporary exemption, i.e., substituting “trailer-mounted electric brake controller” for “surge brake” as follows:

§ 393.48 Brakes to be operative.

* * * *

(d)(1) Trailer-mounted electric brake controllers are allowed on:

(i) Any trailer with a gross vehicle weight rating (GVWR) of 12,000 pounds or less, when its GVWR does not exceed 1.75 times the GVWR of the towing vehicle; and

(ii) Any trailer with a GVWR greater than 12,000 pounds, but less than 20,001 pounds, when its GVWR does not exceed 1.25 times the GVWR of the towing vehicle.

(2) The gross vehicle weight (GVW) of a trailer equipped with a trailer-mounted electric brake controller may be used instead of its GVWR to calculate compliance with the weight ratios specified in paragraph (d)(1) of this section when the trailer manufacturer's GVWR label is missing.

(3) The GVW of a trailer equipped with a trailer-mounted electric brake controller must be used to calculate compliance with the weight ratios specified in paragraph (d)(1) of this section when the trailer's GVW exceeds its GVWR.

(4) The trailer equipped with a trailer-mounted electric brake controller must meet the requirements of §393.40.

§ 393.49 Control valves for brakes.

* * * *

(c) Trailer-mounted electric brake controller exception. This requirement is not applicable to trailers equipped with trailer-mounted electric brake controllers that satisfy the conditions specified in 393.48(d).

Without this exemption, commercial vehicle operators who tow trailers equipped with electric brakes must continue to purchase and install aftermarket trailer brake controllers in each tow vehicle which may be used to tow a commercial trailer equipped with electric brakes.

For the reasons stated above, Innovative Electronics requests that motor carriers be permitted to use trailer-mounted electric brake controllers, which would eliminate the requirement for each individual tow vehicle to be equipped with an electric brake

controller. Innovative Electronics made this request because it believes the use of trailer-mounted electric brake controllers will maintain a level of safety that is equivalent to the level of safety achieved without the exemption. A copy of Innovative Electronics' application for exemption is available for review in the docket of this notice.

Comments

On February 10, 2011, FMCSA published a notice concerning Innovative Electronics' application for temporary exemption, and asked for public comment (76 FR 7623). The Agency received nine comments.

1. Shaun Kildare, on behalf of the Advocates for Highway and Auto Safety (Advocates), provided comments opposing the application for exemption. While Advocates does not oppose the concept of trailer-mounted electric brake controllers which function as surge brakes, it contends that the testing provided in support of the exemption application fails to provide adequate evidence that granting the exemption will achieve a level of safety equivalent to or greater than the level achieved by the current regulation.
2. Pam O'Toole, on behalf of the National Association of Trailer Manufacturers (NATM), commented that NATM is not opposed to an exemption for Innovative Electronics, provided that the scope of the exemption request remains as stated in the application. Ms. O'Toole stated that Innovative Electronics (or other trailer-mounted electric brake controller manufacturers) should be required to conduct additional testing, to include a wider range of tow vehicles and trailer weights, prior to submitting any petition for rulemaking to permanently revise the current definition of "surge brake"

and/or the applicable sections of 49 CFR 393.48 and 49 CFR 393.49.

3. Paul Johnston, on behalf of Commercial Vehicle Services LLD, commented that the Innovative Electronics application for temporary exemption is in the spirit of the Agency's 2007 surge brake rulemaking, which considered – and ultimately adopted – revisions to the definition of “surge brakes” based on data provided to FMCSA supporting such a change. Mr. Johnston stated that the data provided by Innovative Electronics is not sufficient to support a permanent change in the definition of the term “surge brake,” but noted that even the limited testing conducted demonstrated that the brake performance requirements of 49 CFR 393.52 were met. Mr. Johnston also noted that the system proposed by Innovative Electronics has merit, and utilizes “technical solutions that will no doubt be at least equivalent to the current trailer brake control systems that meet the current FMCSA regulation.” Mr. Johnston stated that while he supports a temporary exemption, additional brake performance data will be required on a broader array of vehicles before a permanent regulatory change to the surge brake performance requirements is considered.
4. Six comments were received from individuals who have installed, and are using, the Innovative Electronics trailer-mounted brake controller for personal use. Each individual noted the ease of installation, and that the device does not have to be constantly adjusted like a conventional electric brake controller mounted in the tow vehicle. Several commenters noted that the trailer-mounted brake control activates seamlessly and responds immediately due to

changing cargo loading or road conditions.

FMCSA Response:

On October 7, 2005, in response to a petition for rulemaking submitted by the Surge Brake Coalition (“the Coalition”), FMCSA published a notice of proposed rulemaking (NPRM) entitled “Parts and Accessories Necessary for Safe Operation : Surge Brake Requirements,” to amend the Federal Motor Carrier Safety Regulations (FMCSRs) to allow the use of surge-braked trailers in interstate commerce (70 FR 58657). Regulatory guidance issued previously by the Agency prohibited the use of surge brakes on trailers operated in interstate commerce because such brakes were inconsistent with the requirements of §§ 393.48 and 393.49 of the FMCSRs. The NPRM stated that the use of surge brakes, under the specific conditions noted in the proposal, would be consistent with the original intent of §§ 393.48 and 393.49. Specifically, the Agency stated:

Section 393.48 requires that brakes be capable of operating at all times the vehicle is in operation on public roads. The intent of the requirement is that all commercial motor vehicles operating in interstate commerce have sufficient braking capability at all times. Based upon the information provided by the petitioner, FMCSA believes vehicles equipped with surge brakes, under the conditions being proposed in this rulemaking notice, would have sufficient braking capability at all times the vehicle combination is being operated on public roads, in interstate commerce. While surge brakes automatically release when the vehicle combination comes to a complete stop, the weight-ratio between the towing vehicle and the trailer being proposed today would ensure that the brakes on the towing vehicle are sufficient to maintain control of the combination when the surge brakes release automatically. Therefore, the agency believes the original intent of Section 393.48 would be satisfied by surge brake systems meeting the proposed requirements...

The Agency agrees with the petitioner that advances in braking technology, and specifically in the instance of surge brakes, render the current single valve requirement in the § 393.49 design restrictive and not necessary or appropriate when considered specifically in the context of surge brakes installed on the small and midsize trailers addressed by this proposal.

On March 6, 2007, FMCSA published a final rule entitled “Parts and Accessories Necessary for Safe Operation: Surge Brake Requirements,” revising the FMCSRs to allow the use of automatic hydraulic inertia brake systems (surge brakes) on commercial trailers when the ratios of gross vehicle weight ratings (GVWR) for the towing vehicle and trailer are within certain limits (72 FR 9855). A surge brake is defined in 49 CFR 393.5 as “A self-contained, permanently closed *hydraulic* brake system for trailers that relies on inertial forces, developed in response to the braking action of the towing vehicle, applied to a hydraulic device mounted on or connected to the tongue of the trailer, to slow down or stop the towed vehicle.”

A trailer-mounted electric brake control device is essentially an *electric* surge brake controller, with the electric power for the brakes provided by the tow vehicle, but the braking action of the trailer is controlled by the electronic controller mounted on the trailer. A trailer-mounted electric brake controller has the performance advantage of continuous electronic sensing of the braking forces acting on the trailer by the tow vehicle, thus: (1) eliminating the over-application of the trailer brakes in wet or icy conditions, and (2) adjusting the application of the trailer brakes automatically to variations in trailer weight. This is not possible when relying on the crude, manual adjustments available on most in-cab tow vehicle electric brake controllers.

It is important to note that there are no Federal Motor Vehicle Safety Standards (FMVSS) that specify the brake performance requirements for trailers equipped with electric brakes. The use of trailers equipped with electric brakes is currently allowed, and the brake performance of trailers equipped with a trailer-mounted brake controller appears to be equivalent to the performance of a tow vehicle equipped with an electric trailer brake controller. The use of a trailer-mounted electronic brake controller does not alter the braking capability of a trailer equipped with electric brakes; instead, it alters the method by which the trailer electric brakes are applied.

Innovative Electronics provided limited test data showing that use of a trailer-mounted electric brake controller effectively controls the braking action of the trailer such that the tow vehicle and trailer combination meets the braking performance requirements of 49 CFR 393.52(d). FMCSA acknowledges that the combination vehicle brake performance data provided are representative of only a single trailer-mounted electronic brake controller manufacturer, and do not cover the full range of trailer-to-tow vehicle GVWR ratios as currently allowed for hydraulic surge brakes. FMCSA agrees with comments provided by Advocates, NATM, and Commercial Vehicle Services LLD that additional combination vehicle brake performance data will be necessary to support inclusion of trailer-mounted electronic brake controllers in the definition of surge brake. However, the subject exemption application is for a limited, 2-year time period, and does not represent a formal, permanent change to the FMCSRs.

While trailer-mounted electric brake controllers are currently available for non-commercial use trailers, granting the exemption will allow rental companies to rent

trailers equipped with trailer-mounted electric brake controllers to commercial customers whose tow vehicles are not equipped with electric brake controllers.

For the reasons discussed above, and consistent with the Agency's previous determination that use of surge brakes is compatible with the original intent of §§ 393.48 and 393.49, the Agency believes that granting the temporary exemption to allow motor carriers to use trailer-mounted electronic brake controllers provides a level of safety that is equivalent to the level of safety achieved without the exemption. As noted earlier, the use of a trailer-mounted electronic brake controller does not alter the braking capability of a trailer equipped with electric brakes; instead, it alters the method by which the trailer's electric brakes are applied. The Agency emphasizes that the exemption should not be construed as an exception to the brake performance requirements under § 393.52; motor carriers using trailer-mounted electric brake controllers must ensure that any commercial motor vehicle, or combination of commercial motor vehicles, complies with the brake performance requirements under § 393.52 when operated in interstate commerce.

FMCSA has decided to grant Innovative Electronics' exemption application. The FMCSA encourages any party, including Innovative Electronics, having information that motor carriers utilizing this exemption are not achieving the requisite level of safety immediately to notify the Agency. If safety is being compromised, or if the continuation of the exemption is not consistent with 49 U.S.C. 31315(b) and 31136(e), FMCSA will take immediate steps to revoke the temporary exemption.

Terms and Conditions for the Exemption

Based on its evaluation of the application for an exemption, FMCSA has decided to grant Innovative Electronics' exemption application. The Agency believes that the level of safety that will be achieved using a trailer-mounted electric brake controller during the 2-year exemption period will likely be equivalent to, or greater than, the level of safety without the exemption.

The Agency hereby grants the exemption for a two-year period, beginning [INSERT DATE OF PUBLICATION in the FEDERAL REGISTER] and ending [INSERT DATE TWO YEARS FROM DATE OF PUBLICATION in the FEDERAL REGISTER].

During the temporary exemption period, motor carriers must meet the hydraulic surge brake requirements of §§ 393.48(d) and 393.49(c), substituting "trailer-mounted electric brake controller" for "surge brake" as follows:

§ 393.48 Brakes to be operative.

* * * * *

(d)(1) Trailer-mounted electric brake controllers are allowed on:

(i) Any trailer with a gross vehicle weight rating (GVWR) of 12,000 pounds or less, when its GVWR does not exceed 1.75 times the GVWR of the towing vehicle; and

(ii) Any trailer with a GVWR greater than 12,000 pounds, but less than 20,001 pounds, when its GVWR does not exceed 1.25 times the GVWR of the towing vehicle.

(2) The gross vehicle weight (GVW) of a trailer equipped with a trailer-mounted electric brake controller may be used instead of its GVWR to calculate compliance with the weight ratios specified in paragraph (d)(1) of this section when the trailer manufacturer's GVWR label is missing.

(3) The GVW of a trailer equipped with a trailer-mounted electric brake controller must be used to calculate compliance with the weight ratios specified in paragraph (d)(1) of this section when the trailer's GVW exceeds its GVWR.

(4) The trailer equipped with a trailer-mounted electric brake controller must meet the requirements of §393.40.

§ 393.49 Control valves for brakes.

* * * * *

(c) Trailer-mounted electric brake controller exception. This requirement is not applicable to trailers equipped with trailer-mounted electric brake controllers that satisfy the conditions specified in 393.48(d).

Interested parties possessing information that would demonstrate that motor carriers using the exemption for trailer-mounted electric brake controllers are not achieving the requisite statutory level of safety should provide that information to FMCSA, and that information will be placed in **Docket No. FMCSA-2011-0022**. Placement of information in the docket is addressed at 75 FR 33667, June 14, 2010. The Agency will evaluate any such information placed in the docket and, if safety is being compromised or if the continuation of the exemption is not consistent with 49 U.S.C. 31315(b)(4) and 31136(e), will take immediate steps to revoke this exemption, if warranted.

Preemption

During the period the exemption is in effect, no State shall enforce any law or regulation that conflicts with or is inconsistent with this exemption to allow commercial motor vehicle operators to use trailer-mounted electric brake controllers which monitor and actuate electric trailer brakes based on inertial forces developed in response to the braking action of the towing vehicle.

Issued on: November 18, 2011

Anne S. Ferro
Administrator

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